

STATEMENT OF JON L. JORDAN, M.D., J.D. FEDERAL AIR SURGEON,
FEDERAL AVIATION ADMINISTRATION BEFORE THE HOUSE COMMITTEE
ON TRANSPORTATION AND INFRASTRUCTURE, SUBCOMMITTEE ON
AVIATION, ON EFFORTS TO PREVENT PANDEMICS BY AIR TRAVEL

APRIL 6, 2005

Chairman Mica, Congressman Costello and Members of the Subcommittee, I am Jon L. Jordan, the Federal Aviation Administration's (FAA) Federal Air Surgeon. It is a pleasure to appear before you today to discuss the efforts to prevent pandemics by air travel. I recognize that this is a priority of this Subcommittee and FAA shares your concerns. It has also been a matter of significant concern to aviation passengers and the crews that earn their living by working on commercial transport aircraft. Secretary Mineta and Administrator Blakey both take these concerns seriously. They are supportive of efforts to help protect the health, safety and comfort of the traveling public and cabin crews.

The FAA and the Centers for Disease Control and Prevention (CDC) have strengthened their relationship with the airline industry on the issues of infectious diseases and travelers' health through the Air Transport Association's Medical Committee. The FAA and the CDC have become regular attendees at the meetings of the Medical Committee of the Air Transport Association. The effectiveness of this growing partnership was demonstrated during the SARS outbreak, when the CDC and the ATA Medical Committee conducted weekly teleconferences to discuss developments, and the CDC and FAA took special care to make sure that the airline industry received notice of all updates

and alerts issued by the CDC on SARS. Presently, the CDC is exploring with the airline industry methods to improve communications in a number of areas.

An important new initiative is underway in the Office of the Secretary of Transportation, (OST). OST in coordination with the Department of Health and Human Services is compiling a Best Practices Manual to provide airport operators and local health authorities with assistance in responding to the threats of contagious diseases at international gateway airports. Guidelines and other important information are being assembled from experiences at airports throughout the world, and will be used for training sessions that the CDC plans to begin this spring. This project will result in the publication by the Department of a Best Practices Manual, which will be available to airport owners and operators and public health officials.

Considering the potential of pandemics and contagious disease transmission on airliners in general, issues inevitably arise concerning the quality of air in airliner cabins. It is important, however, to understand that studies have indicated that many aspects of cabin air are as good as or better than the air found in office and home environments. Air carriers have the benefit of flying at altitudes above the air pollution that is circulated into spaces on the ground that we occupy on a daily basis.

For those aircraft that recirculate some part of the cabin air, that air is typically passed through high quality filters before it returns to the cabin. Manufacturers of new airplanes used by air carriers incorporate either High Efficiency Particulate Air (HEPA) filters,

similar to those used in hospital isolation areas and surgical suites, or particulate filters that are somewhat less efficient. HEPA filters are defined by the EPA as those with a filtering efficiency of 99.97 percent. These filters remove dust, vapors, bacteria and fungi. HEPA filters also effectively capture some viruses. Several airlines, in coordination with aircraft manufacturers, have even installed HEPA filters on board airplanes that did not originally incorporate them into their design.

Today, I will describe new developments related to airliner cabin air as well as FAA's ongoing efforts in this area.

NATIONAL RESEARCH COUNCIL REPORT

In December 2001, the National Research Council (NRC) completed a congressionally-directed study of cabin air quality. The NRC developed ten recommendations related to cabin air quality. FAA concurred with the intent of all of the recommendations and, for many of these recommendations, we have either completed actions that address the underlying concerns or we are in the process of addressing specific items.

The first four NRC recommendations involve assessing the validity of current regulations related to airplane ventilation systems and potential contaminants of cabin air. We anticipate that by the close of 2006 or early 2007, when a comprehensive study on cabin air quality being conducted by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) is completed, that substantial data will be available for our consideration that will enable us to do these assessments.

NRC Recommendation 5 addresses allergen exposure. Allergens in the airplane cabin are a serious, potentially life-threatening issue for a small segment of the airline passenger population. Although some air carriers do not allow pets in the cabins, FAA and DOT regulations do not prohibit animals in air carriers for two primary reasons. We believe that most animal allergens are brought onto the airplane on the clothes of passengers rather than by animals. Therefore, prohibiting small animals altogether would have only a modest reduction in allergen levels. In addition, carriage of service animals in the cabin may be necessary to assist disabled travelers. FAA issued an Advisory Circular (AC) providing information to passengers, crew, and operators on how to prepare for air travel when allergens could present a medical concern and how to respond in the case of an allergen induced medical emergency.

The agency also issued an AC implementing NRC Recommendation 7, concerning ventilation failure or shutdowns on the ground. We have advised air carriers to remove passengers from an airplane within 30 minutes of a ventilation failure or shutdown, as long as operational safety is not compromised.

In Recommendation 6, the NRC suggested that FAA increase efforts to provide information on health issues related to air travel to crew, passengers and health professionals. FAA has taken significant steps to make available information and recommendations regarding air travel health and medical issues through the FAA website, and have linked our site with the CDC website, and other websites that provide health information to passengers and crews.

In Recommendations 8 and 9, NRC recommends that FAA establish a surveillance and research program for air quality and health that would provide the data to analyze the relationship between cabin air quality and health effects or complaints. These recommendations are being addressed through research efforts by the FAA's newly established Center of Excellence for Airliner Cabin Environment (ACER), which I discuss in detail below, and ASHRAE. The data collected from these studies on air quality and the potential air quality correlation with health concerns will provide us with information essential to developing an implementation plan for the first four NRC recommendations. As I mentioned earlier, FAA expects data to be available by the end of 2006 or early 2007, and thereafter, as a result of the work done both by ASHRAE and FAA'S ACER.

FAA AIR TRANSPORTATION CENTER OF EXCELLENCE
FOR AIRLINER CABIN ENVIRONMENT RESEARCH

In September of 2004, the FAA announced the establishment of the Air Transportation Center of Excellence for Airliner Cabin Environment Research (ACER), headed by Auburn University. ACER will research cabin air quality and conduct an assessment of chemical and biological threats. Other universities taking part in the effort include Purdue University, Harvard University, Boise State University, Kansas State University, the University of California at Berkeley, and the University of Medicine and Dentistry of New Jersey. The FAA will provide funding for the center and matching funds will be provided by the private sector.

ACER will conduct a comprehensive and integrated program of research and development on the cabin environment. The team brings the diverse expertise necessary to conduct research on the healthfulness of the cabin environment for passengers and crew, enhancement of aircraft environmental control systems, and detection and mitigation of chemical and biological threats aboard aircraft. ACER aims to be a unique resource for airlines, equipment manufacturers, cabin crews and the traveling public, and places a major emphasis on partnerships with industry. Among others, the University of Oregon and Oklahoma State University will contribute to this research effort.

DISINSECTION

Chemical disinsection—a term used to describe the process of ridding an airplane of insects-- has been a long-time concern, although a 1995 World Health Organization report concluded that aircraft disinsection, if performed appropriately, would not present a risk to human health. Chemical disinsection has been significantly reduced and approximately half of the 15 countries that still require disinsection of all in-bound flights allow disinsection prior to boarding the aircraft. The Office of the Secretary of Transportation chairs an interagency working group that is taking a lead in researching and developing means of non-chemical disinsection of aircraft. OST's efforts are currently focused on air curtain technology, which would prevent insects from both entering and leaving aircraft, thus eliminating the need for treatment with pesticides. DOT is about to embark on a pilot program with Jamaica to demonstrate this technology.

TUFTS-NEW ENGLAND MEDICAL CENTER STUDY

The Lancet published, in its March 12, 2005 issue, a study by doctors at Tufts-New England Medical Center and the Lahey Clinic Medical Center entitled, “Transmission of Infectious Diseases During Commercial Air Travel.” The report notes that cabin air quality has been the focus of many media investigations and criticism from special interest groups and that most of this concern is associated with the perception that airborne particles are distributed throughout the entire cabin by the ventilation system. The report states, however, that no peer-reviewed scientific work links cabin air quality and aircraft ventilation rates to heightened health risks compared with other modes of transport or with office buildings. The report concludes that the environmental control system used in commercial aircraft seems to restrict the spread of airborne pathogens, and the perceived risk is greater than the actual risk.

CONCLUSION

In closing, on behalf of Administrator Blakey, I would like to reiterate that FAA is committed to ensuring the safest flight possible – from the safety of the operation of the aircraft to the quality of the air that passengers and crew breathe inside the cabin. I look forward to working with the Subcommittee regarding any concerns you may have on the quality of airliner cabin air and specifically, efforts to prevent pandemics by air travel. This concludes my testimony, and I would be happy to answer any questions you may have.